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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/811,664

03/29/2004

John Glenn Thompson

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EXAMINER

BONURA, TIMOTHY M

ART UNIT

PAPER NUMBER

2114

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/811,664	Applicant(s) THOMPSON, JOHN GLENN	
	Examiner Tim Bonura	Art Unit 2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-8, 11-14, 17-22, and 25-30 is/are rejected.
- 7) ☒ Claim(s) 2-4, 9, 10, 15, 16, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/29/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

- **Claims 1, 5-8, 11-14, 17-22, and 25-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Bartfai, et al, U.S. Patent Application Publication Number 2005/0081091.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 5-8, 11-14, 17-22, and 25-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Bartfai, et al, U.S. Patent Application Publication Number 2005/0081091.
4. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.
5. Regarding claim 1:

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- a. Regarding the limitation of "a mirror module configured to suspend mirroring operations between a primary volume and a secondary volume, each volume comprising a suspend-time volume identifier within a volume identifier field," Bartfai discloses a system with a first and second mirrored volumes and upon detection of a error at the first storage unit, the second unit becoming the primary unit for receiving data. (Paragraph 0013).
- b. Regarding the limitation of "a volume identification module configured to associate the secondary volume with a selected volume identifier," Bartfai discloses a system that can direct data updates to the secondary unit upon detection of the first. (Paragraph 0013).
- c. Regarding the limitation of "a data replication module configured to copy a volume to a backup volume," Bartfai discloses a system wherein a third unit receives asynchronous updates from the second unit. (Paragraph 0013).
- d. Regarding the limitation of "the volume identification module further configured to associate the suspend-time secondary volume identifier with a backup volume," Bartfai discloses a system with the third unit is asynchronously updated with the second unit after a failure of the first unit. (Paragraph 0013).
6. Regarding claim 5, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).
7. Regarding claim 6, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).
8. Regarding claim 7, Bartfai discloses a system with a storage control unit that is coupled to all the storage units for communication. The storage control would inherently contain a storage unit identifier in order to communicate with the storage units. (Paragraph 0029).

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9. Regarding claim 8:

e. Regarding the limitation of "a host configured to read and write data," Bartfai discloses a system with a first and second mirrored volumes. (Paragraph 0013).

f. Regarding the limitation of "a primary storage system in communication with the host, the primary storage system having a primary volume," Bartfai discloses a system wherein data from the system is written to the first storage unit. (Paragraph 0044).

g. Regarding the limitation of "a secondary storage system configured to mirror data on the primary storage system using a secondary volume, the secondary volume having a suspend-time volume identifier within a volume identifier field," Bartfai discloses a system with a first and second mirrored volumes and upon detection of a error at the first storage unit, the second unit becoming the primary unit for receiving data. (Paragraph 0013).

h. Regarding the limitation of "a backup system configured to replicate an online volume to a backup volume," Bartfai discloses a system wherein a third unit receives asynchronous updates from the second unit. (Paragraph 0013).

i. Regarding the limitation of "a secondary volume replication module configured to suspend a mirroring operating, associate the secondary volume with a selected identifier, copy the secondary volume to the backup volume, and associate the suspend-time secondary volume identifier with a backup volume," Bartfai discloses a system with the third unit is asynchronously updated with the second unit after a failure of the first unit. (Paragraph 0013).

10. Regarding claim 11, Bartfai discloses a system in which the second unit can become the primary source for storing data when the first unit fails. (Paragraph 0045-0046).

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11. Regarding claim 12, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).

12. Regarding claim 13, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).

13. Regarding claim 14:

j. Regarding the limitation of "suspend mirroring operations between a primary volume and a secondary volume, each volume comprising a suspend-time volume identifier within a volume identifier field," Bartfai discloses a system with a first and second mirrored volumes and upon detection of an error at the first storage unit, the second unit becoming the primary unit for receiving data. (Paragraph 0013).

k. Regarding the limitation of "associate the secondary volume with a selected volume identifier," Bartfai discloses a system that can direct data updates to the secondary unit upon detection of the first. (Paragraph 0013).

l. Regarding the limitation of "replicating the secondary volume with a selected volume identifier," Bartfai discloses a system wherein a third unit receives asynchronous updates from the second unit. (Paragraph 0013).

m. Regarding the limitation of "associating the suspend-time secondary volume identifier with a backup volume," Bartfai discloses a system with the third unit is asynchronously updated with the second unit after a failure of the first unit. (Paragraph 0013).

14. Regarding claim 17, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).

15. Regarding claim 18, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).

16. Regarding claim 19, Bartfai discloses a system with a storage control unit that is coupled to all the storage units for communication. The storage control would inherently contain a storage unit identifier in order to communicate with the storage units. (Paragraph 0029).

17. Regarding claim 20, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013). Bartfai discloses a system with a storage control unit that is coupled to all the storage units for communication. The storage control would inherently contain a storage unit identifier in order to communicate with the storage units. (Paragraph 0029). Bartfai discloses a system wherein the host determines the first unit is about to fail and proceeds with failing over to the second unit. (Paragraph 0045,0046).

18. Regarding claim 21, Bartfai discloses a system that can direct data updates to the secondary unit upon detection of the first. (Paragraph 0013).

19. Regarding claim 22:

n. Regarding the limitation of "suspend mirroring operations between a primary volume and a secondary volume, each volume comprising a suspend-time volume identifier within a volume identifier field," Bartfai discloses a system with a first and second mirrored volumes and upon detection of an error at the first storage unit, the second unit becoming the primary unit for receiving data. (Paragraph 0013).

o. Regarding the limitation of "associate the secondary volume with a selected volume identifier," Bartfai discloses a system that can direct data updates to the secondary unit upon detection of the first. (Paragraph 0013).

p. Regarding the limitation of "replicating the secondary volume with a selected volume identifier," Bartfai discloses a system wherein a third unit receives asynchronous updates from the second unit. (Paragraph 0013).

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- q. Regarding the limitation of "associating the suspend-time secondary volume identifier with a backup volume," Bartfai discloses a system with the third unit is asynchronously updated with the second unit after a failure of the first unit. (Paragraph 0013).
20. Regarding claim 25, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).
21. Regarding claim 26, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013).
22. Regarding claim 27, Bartfai discloses a system with a storage control unit that is coupled to all the storage units for communication. The storage control would inherently contain a storage unit identifier in order to communicate with the storage units. (Paragraph 0029).
23. Regarding claim 28, Bartfai disclose a system wherein, upon the first unit being repaired, the first unit re-establishes mirror with the second unit. (Paragraph 0013). Bartfai discloses a system with a storage control unit that is coupled to all the storage units for communication. The storage control would inherently contain a storage unit identifier in order to communicate with the storage units. (Paragraph 0029). Bartfai discloses a system wherein the host determines the first unit is about to fail and proceeds with failing over to the second unit. (Paragraph 0045,0046).
24. Regarding claim 29, Bartfai discloses a system that can direct data updates to the secondary unit upon detection of the first. (Paragraph 0013).
25. Regarding claim 30:
- r. Regarding the limitation of "suspend mirroring operations between a primary volume and a secondary volume, each volume comprising a suspend-time volume identifier within a volume identifier field," Bartfai discloses a system with a first and

second mirrored volumes and upon detection of an error at the first storage unit, the second unit becoming the primary unit for receiving data. (Paragraph 0013).

s. Regarding the limitation of "associate the secondary volume with a selected volume identifier," Bartfai discloses a system that can direct data updates to the secondary unit upon detection of the first. (Paragraph 0013).

t. Regarding the limitation of "replicating the secondary volume with a selected volume identifier," Bartfai discloses a system wherein a third unit receives asynchronous updates from the second unit. (Paragraph 0013).

u. Regarding the limitation of "associating the suspend-time secondary volume identifier with a backup volume," Bartfai discloses a system with the third unit is asynchronously updated with the second unit after a failure of the first unit. (Paragraph 0013).

Claim Objections

26. Claims 9 and 17 are objected to because of the following informalities: Both claims have ":" instead of "." At the end of each claim. Appropriate correction is required.

Specification

27. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Conclusion

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tim Bonura**.

- The examiner can normally be reached on **Mon-Fri: 8:30-5:00**.
- The examiner can be reached at: **571-272-3654**.

29. If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, **Scott Baderman**.

- The supervisor can be reached on **571-272-3644**.

30. The fax phone numbers for the organization where this application or proceeding is assigned are:

- **703-872-9306 for all patent related correspondence by FAX.**

31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

32. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **receptionist** whose telephone number is: **571-272-2100**.

33. Responses should be mailed to:

- **Commissioner of Patents and Trademarks**
P.O. Box 1450
Alexandria, VA 22313-1450

Tim Bonura
Examiner
Art Unit 2114



September 27, 2006